

# Case Study

## Southend University Hospital NHS Foundation Trust improves process for patient discharge

- potential savings of 20,000 person hours a year

### The Situation

Southend University Hospital NHS Foundation Trust, treating 70,000 in-patients a year, wanted to improve the patient discharge process with speed and efficiency. When patients leave hospital after treatment the discharge process sometimes fails caused by paperwork that gets mislaid, failure to reach the GP through the post or simply illegible handwriting. Whether by human error, or simply pressure on overworked staff, such mishaps can result in serious consequences for post-hospital patient care.

The Trust decided to look for a technology solution to help manage and improve the discharge process, currently taking at least 30 minutes to complete for every patient, absorbing time that doctors or nurses could be caring for other patients or reassuring relatives.

The process to produce a patient discharge form was totally manual and was handled differently by each department. It took two forms - a quick summary note and a detailed patient case note.

The first form was a summary note written on the ward and given to the patient to hand to their GP. It was also sent to the hospital pharmacy with instructions to issue any drugs patients needed to take at home between leaving hospital and seeing their GP.

The second detailed form outlined diagnosis, patient history, tests undertaken, treatment plan, medication on discharge, and follow up. The detailed note required the patient case notes file. However, the file was sent for coding immediately after the patient left hospital and it could take up to six weeks before it was returned to the consultant in charge of the treatment. After that it could take a further two weeks for the consultant to prepare the summary and mail it to the GP.

### The Solution

WCI developed a solution based on Microsoft Office InfoPath® and delivered a pilot solution for the Trust in just 20 days, for the first five users.

The InfoPath design mode provided drag-and-drop insertion of controls, data validation, a view of the underlying schema, an interactive preview which demonstrated exactly how the form will behave and look when completed, and a publishing wizard that simplified form deployment. The forms were automatically populated with information from the Trust's Patient Administration System (PAS). The clinician or nurse logged into the network using normal Microsoft Windows® login credentials on a Tablet PC and accessed the InfoPath form for the patient waiting to go home.

If more than one patient matched the details entered, the system popped up a list of matching patients and demographic details for the user to select. After selecting the patient, the nurse pre-fills as much of the data as possible prior to the doctor finalising the patient's release.

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When the form is complete a hard copy is automatically printed for the case file and the form itself is saved in SQL Server.

*“When we piloted this electronic form using InfoPath, we were able to amend the discharge process so that ward staff pre-filled much of the key data prior to the doctor finalising the patient’s release. At least 50% of the data can be treated this way.” - Nick Fernandez, Director of IT, Southend University Hospital NHS F.T.*

Microsoft BizTalk® Server was used to integrate the InfoPath form with the hospital pharmacy to prepare the medicines for the patient to take home. The completed form was automatically sent to the patient’s GP on a secure e-mail solution and at the same time an e-mail goes to the hospital pharmacy to prepare any drugs the patient needs until he or she sees their own doctor. The pilot project was developed using the Microsoft .NET Framework and Microsoft Visual Studio®.

## Benefits

The fully automated patient discharge forms will potentially save the Trust an equivalent of 20,000 working hours a year enabling doctors and nurses to spend more time with patients and fewer working hours on paperwork. Benefits will be primarily experienced by the patients, with paperwork handled electronically, nurses and doctors will have more time for the human touch.

The InfoPath forms can be pre-populated with patient data through interfaces with the existing patient data system. This will enable doctors to complete the whole process of discharging a patient from hospital in only five minutes, compared to on average half an hour with the manual system. GPs will have the ability to see a secure electronic copy of the discharge information which will eliminate delay. Patients will benefit from a greater continuity of care and an easier reintegrated into the community after a hospital stay.

## Next Steps

Having successfully piloted the new discharge process and measured the benefits, the next task is to examine how this new way of working can be expanded across the Trust. As with any internal process change, the key to success will be to ensure staff are fully engaged and involved in the benefits that a new or simplified process can offer.

WCI’s excellence in technology and expertise in implementing lean processes was fundamental to the success of this pilot. This unique capability is coupled with an 18 year NHS track record, enabling trusts and other healthcare organisations to meet government targets, streamline processes and satisfy local clinical requirements.

## Customer Profile

Southend University Hospital NHS Foundation Trust has 3,300 staff serving a population of 330,000 in Essex. It treats 70,000 inpatient/day cases, 300,000 outpatients and 70,000 accident & emergency attendees every day. It has an annual income of £115m and acquired Foundation Trust status on 1<sup>st</sup> June 2006.